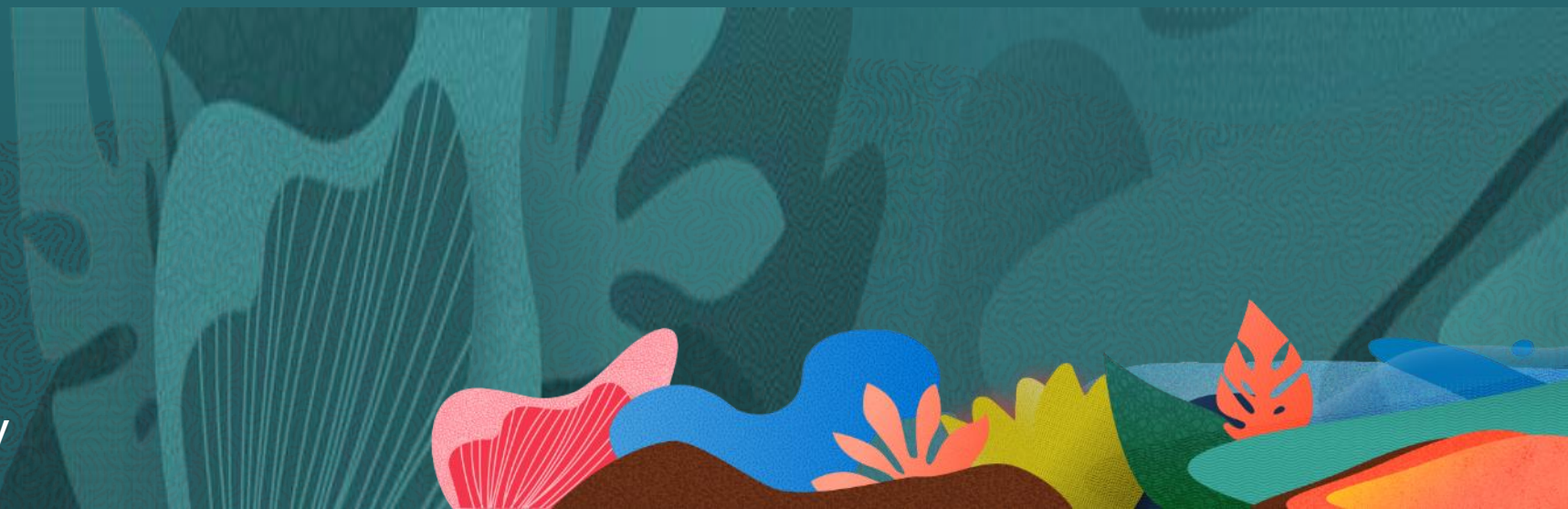




Sustainability & Energy Saving

Daniel Tsai
MTC Director
Microsoft Taiwan

Microsoft Cloud for Sustainability



Defining Sustainability & ESG

While Sustainability and ESG are often used as interchangeable terms, they can describe two different approaches and serve separate purposes. What's the difference?

What is Sustainability?

Meeting the needs of the present without compromising the ability of future generations to meet their own needs.



Holistic



Future-oriented



Qualitative (comparatively)

What is ESG?

Acronym covering Environmental, Social, and Governance topics and their management



Performance-oriented



Data-driven



Quantitative

Deep Dive - ESG

ESG stands for Environmental, Social, and Governance. Each of these pillars consists of several sub-topics relevant to businesses and stakeholders alike.

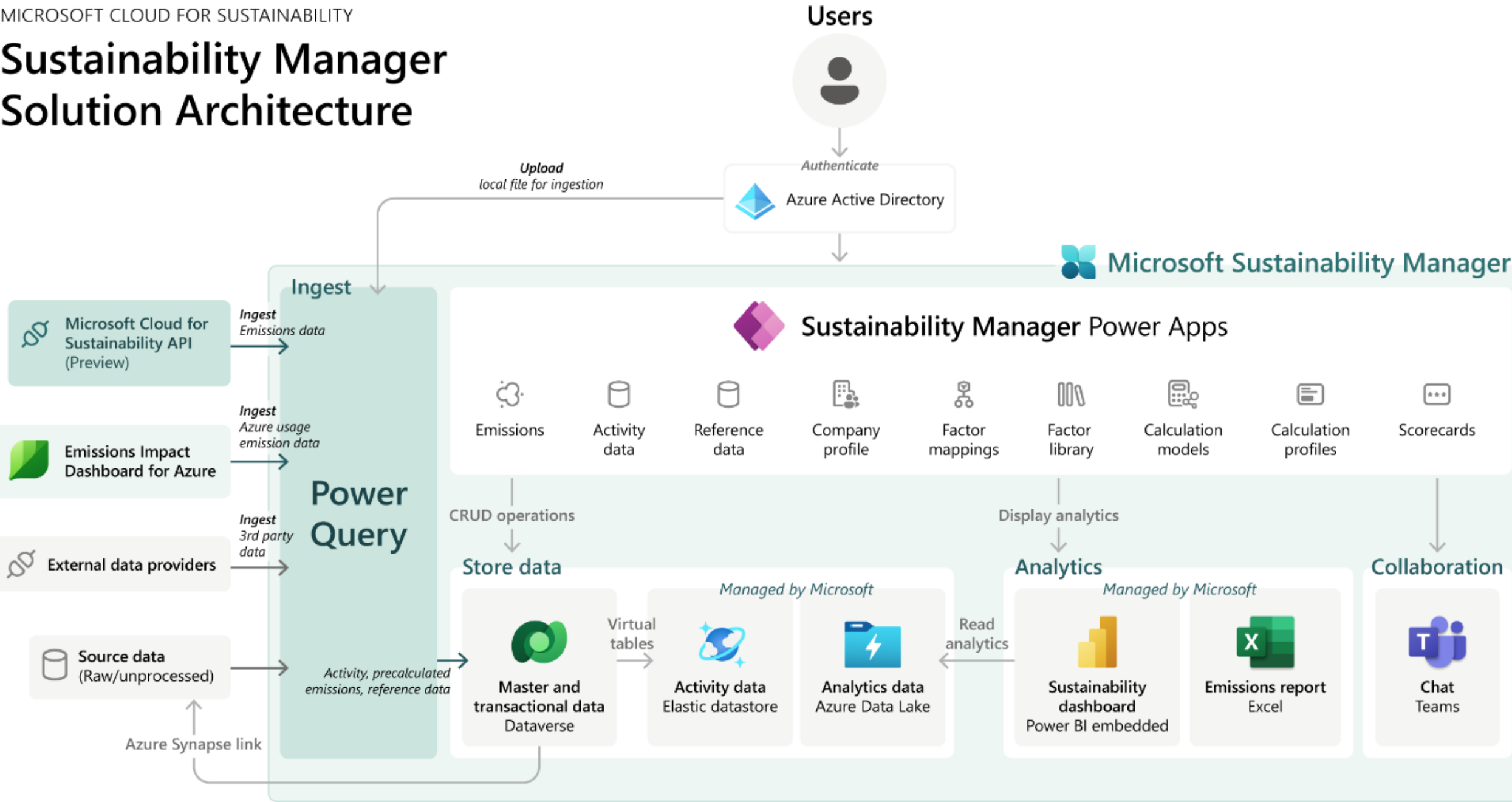
Area	Environmental	Social	Governance
Sub-topics	• Climate change • Energy & emissions • Water management • Waste & recycling • Land use & biodiversity • Air quality & pollution • Resource depletion (deforestation, etc.)	• Talent attraction & retention • Health & wellness • Diversity & inclusion • Economic mobility • Employee development • Supporting local communities	• Anti-corruption • Business ethics • Data privacy & security • Executive compensation • Responsible sourcing • Public policy • Consumer rights & protection

Microsoft Sustainability Manager

Unify data intelligence to
monitor and manage your
environmental
sustainability performance

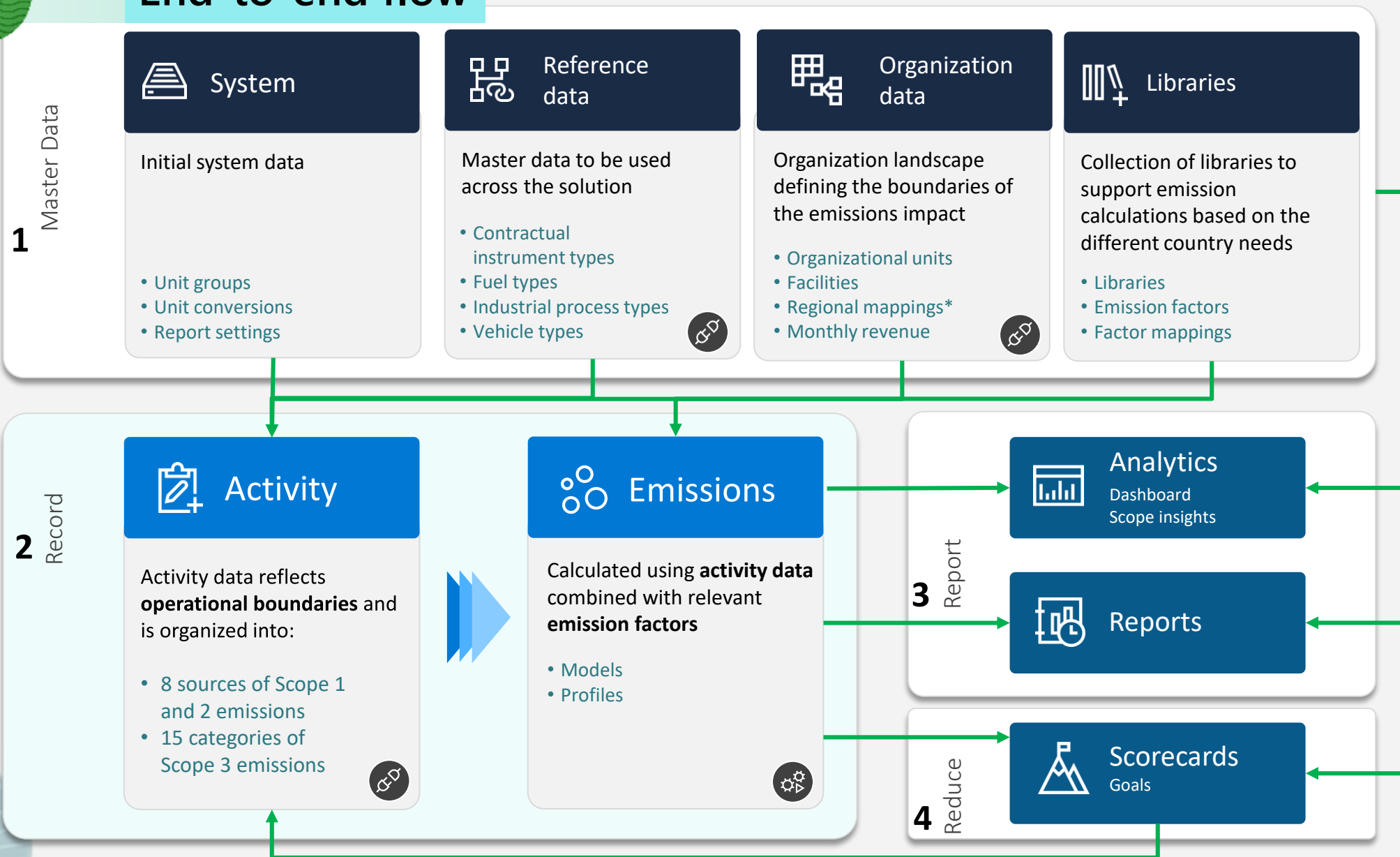


Sustainability Manager Solution Architecture

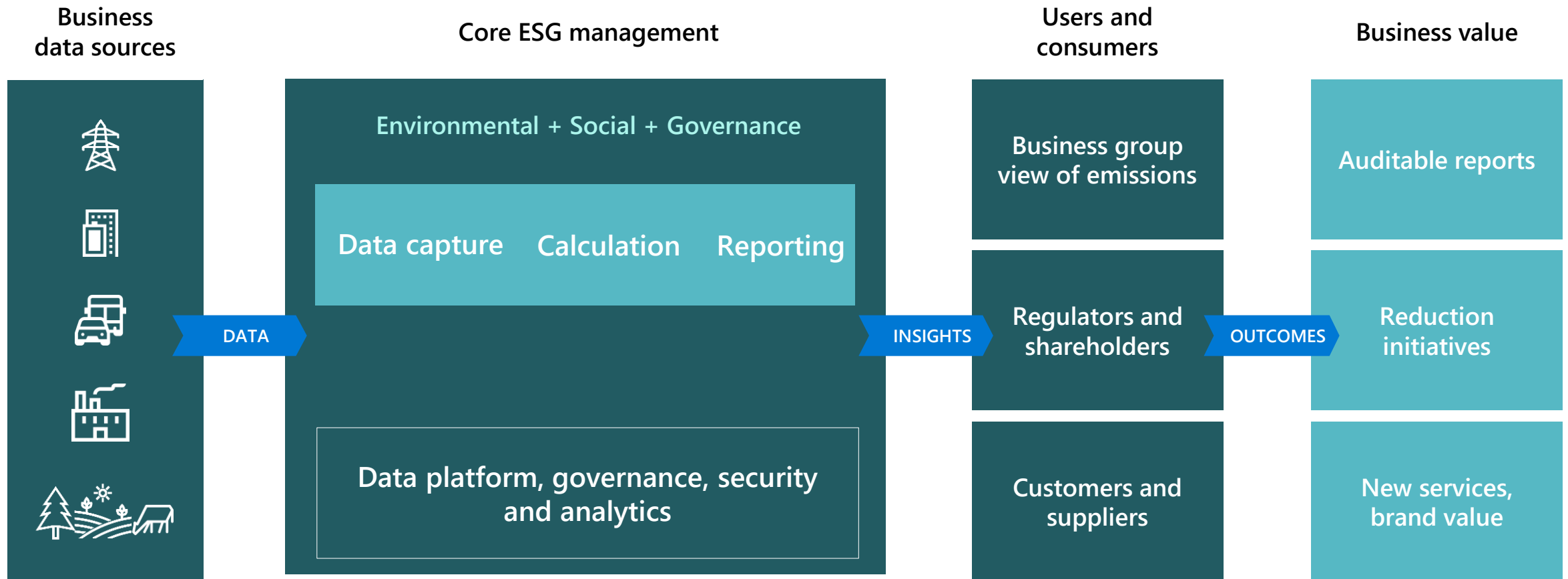


End-to-end flow

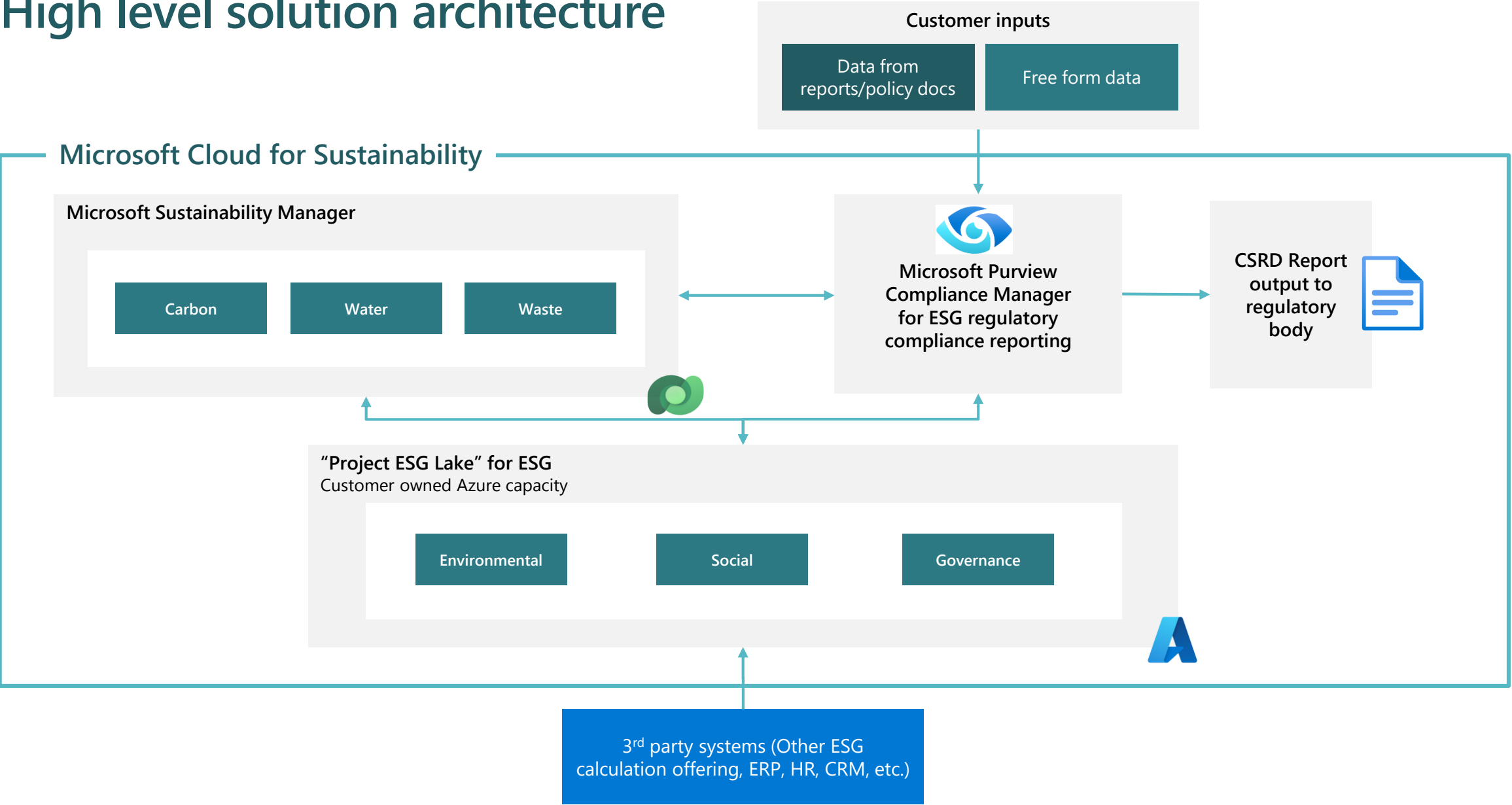
Connection available
for continuous data
stream



Microsoft Cloud for Sustainability empowers organizations to turn data insights into action and reduce environmental impact



High level solution architecture



Partnership with Advantech

Energy Saving = Decarbonization = Cost Saving



System Architecture of WISE-iEMS Solution

Vertical Market



Traditional
Manufacturing



High Tech
Manufacturing



Hospital
& Finance



Hotel
& Retail

Sustainable Management For Business Managers (Carbon & Energy)



ECOEnterprise

Enterprise Sustainability Indicators Management

- Global overview
- Field annual carbon emissions
- RE100 management
- Carbon emission monitoring
- Carbon reduction cost management
- Decarbonization and energy saving actions



CarbonR

Carbon Assets Management

- Organization Carbon Inventory
- Carbon Hot spot Analysis
- Data Quality Management
- Product Carbon Footprint
- Coefficient database
- Supply Chain data integration



ECOWatch

Energy Management

- Energy Consumption EUI
- Demand Management
- Energy Consumption Analysis
- Energy Saving Management

Intelligent Energy Efficiency Management



HVAC

HVAC Energy
Efficiency Management

- Equipment monitor & control management
- Energy Efficiency Diagnosis & Analysis
- Evaluation On Economic Operations
- Optimization of Operational Strategy



Compressor

Air Compressor Energy
Efficiency Management

- Equipment monitor & control management
- Energy Load Analysis
- Preventive Maintenance
- Optimal Control Over Unit Group



PHM

Rotating Machinery Motor
Energy Efficiency Management

- Multiple Vibration Measuring Points
- Real-time Management Of Vibration Signals
- Detection & Prediction of Equipment Degradation

Cloud Platform



Data
visualization

Public
Cloud

WISE-iEMS
Advantech Smart Energy

Private
Cloud



AIFS framework
services

VisualSuite

InsightAPM

IoTsuite

EdgeSync 360

Data Acquisition



Edge365
EdgeLink

ECU-1251
Edge Smart
Gateway



Edge365
EdgeLink

ADAM-3600
Edge Smart Controller



WebAccess/SCADA
UNO-2484
Embedded Fanless
Industrial Computer

On-site Equipment

Cold/Heat
Meter

Electricity
Meter

Water
Meter

Natural Gas
Meter

HVAC

Fan Coil

Illumination

Generator

Air
Compressor

Distribution
Box

Elevator

Water
Pump

Tap
Water

Boiler

Major Power
Consuming Device

iEMS Solutions Value

Energy Saving



↓ 5% ~ 50%

Overall
Energy
Saving

Management Efficiency



↑ 90%

Management
Efficiency

Equipment Life time



↑ 10% ~ 30%

Extend life
time of
equipment

Maintenance



↑ 10% ~ 35%
Maintenance
Efficiency

↓ 30%
Manpower
cost

Operation Safety



↑ 60% ~ 90%

Safety & Reliability
increment

↓ 90%

Accidents
reduced

Cost Saving



↓ 20% ~ 50%

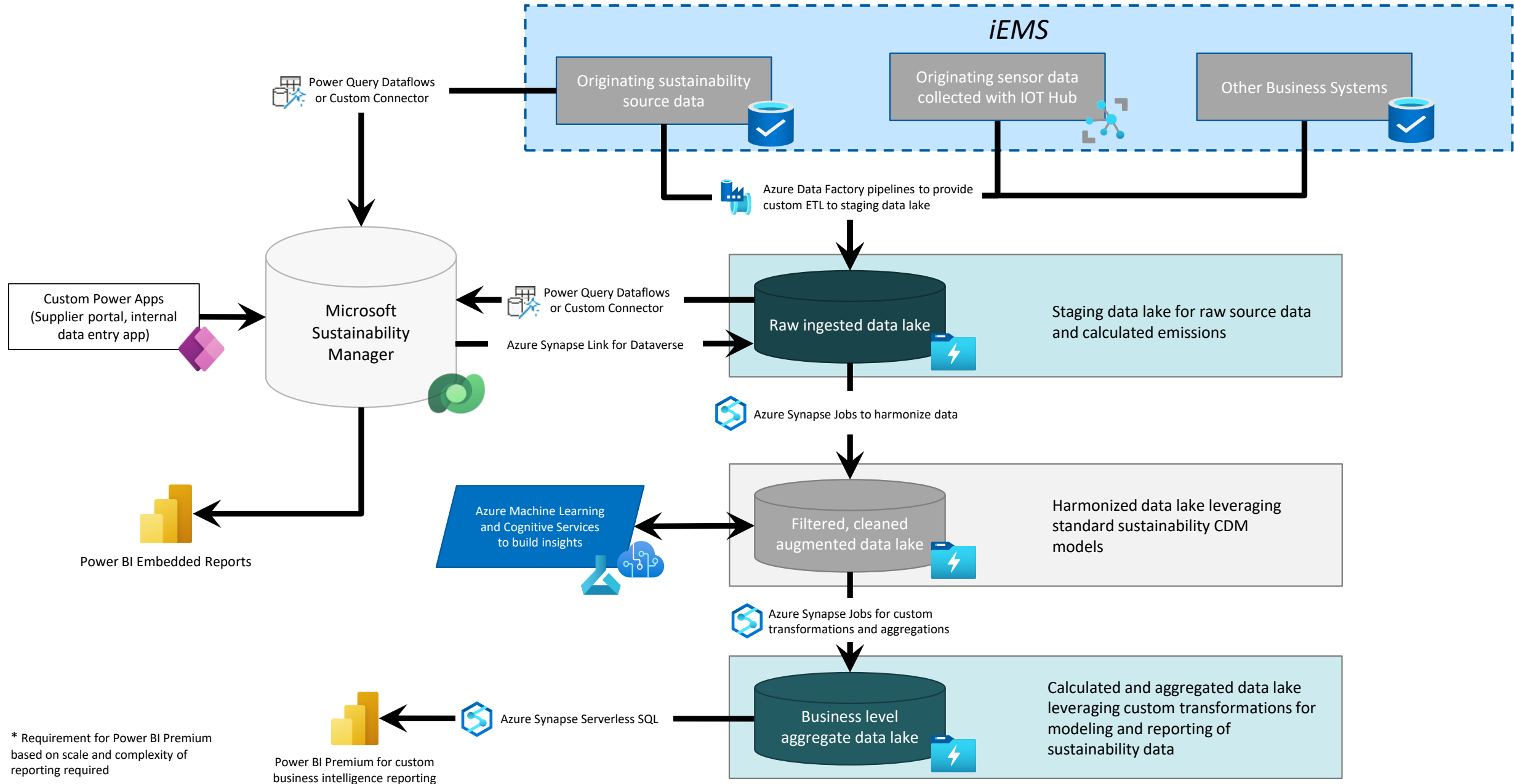
Energy /
Manpower /
Maintenance

Intelligent &
Low Carbon
Transformation

Delicacy
management

Innovative
Technology

Advantech + Microsoft = Energy Saving & Sustainability Solution



Thank You

